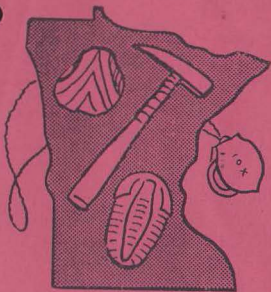


AUTUMN - - 1986



Geological Society
of Minnesota

NEWS

Geological Society of Minnesota



MINNEAPOLIS, MINNESOTA

FIRST CLASS



EDITORS:

GEORGE AND GOLDIE JOHNSON
5146 - 197th Avenue N. E.
Wyoming, Minnesota 55092

LOWE, Dr. Alex & Marlys
2206 Caroline Lane
South St. Paul, MN 55075

PLEASE FORWARD



Geological Society of Minnesota

1711 Marshall Avenue, St. Paul, Mn. 55104

OFFICERS:

Pres. Warren Mitchell
V. Pres.
Treas. Dwight Robinson
Sec'y. Marlys Lowe

DIRECTORS:

Jeff Garry
Bob Gunville
Edward Huppler
Goldie Johnson
Marion Marlen
Eva Selander

NEWSLETTER: August, September, October 1986

FROM THE DESK OF ...

Warren Mitchell

Greetings from the Geological Society of Minnesota! This newsletter is being sent to the members of the Society and to those who visited our State Fair booth and requested a copy of our newsletter. We have had a booth at the State Fair for 30 years or more and is one of the activities that we do during the year. There is always a major effort to design, assemble and cover the booth. A big thanks to the members of the committee who helped with the initial design of the booth. But a special thanks goes to those who provided time and materials to our 1986 State Fair booth: Dick and Eva Selander, Bob Handschin, Jeff Garry, Dwight Robinson, Mary Kimball, Alex and Marlys Lowe, Clarence and Liz Ooten and all of you who spent at least four hours with a smiling face looking at, talking with and answering questions from the many fair goers.

For those of you who didn't see the booth, we featured the winter and summer programs. This last summer and every summer, we take to the field and observe the rocks in their local habitat. We usually take about three weekends in the summer and travel around Minnesota looking at the many geological areas that we have in our state. We have leaders who have spent time in the area either from the Geological Survey or one of the colleges from the area. This year we spent time in southwestern Minnesota, specifically Pipestone; southeastern Minnesota, looking at the glacial boundaries and east central Minnesota, investigating the St. Croix bedrock near Taylor Falls. But our biggest trip this year was to Glacier National Park, Montana. Twenty of us spent a week or so seeing the sights. Bob Gunville led this trip almost as a swan song for field trip leader and coordinator. In my recent memory, Bob and field trips were one and the same. But this winter, Bob said that he had other plans and wasn't going to lead the field trips as he had done for many years. However, he wanted to take us to Glacier and we went. Thank you, Bob. Those of us who went will remember the trip for a long time.

Our winter program starts this October. Dick Uthe has put together a program which should be of interest to all of us. The theme of this year's program is Plate Tectonics. Plate Tectonics is the hot topic in Geology today. I am sure that this topic is opening the way for many doctoral dissertations that will bring us newer ideas and discoveries. I am looking forward to this year's programs. I hope to see all of you who, members or not, are interested in the programs.

Finally, in looking to the future, I want to point out that our 50th year will soon be upon us. The Geological Society was organized on October 26, 1938 under the leadership of Edward Burch, and a few of our members have been with the Society since that time. I hope that we can have a grand 50th birthday party with all the members, past and present, in two years.

See you then,

Warren



ONE MORE FIELD TRIP THIS FALL - - -

Mid-Continent Rift -- Taylors Falls to Stillwater

Sunday, September 14 - Leader: Howard Mooers, Dept. of Geology, University of Minnesota

Observations will be made of the mid-continent rift, the basalts, the paleozoic and sedimentary rock formation. Meet at 9:00 am at the Macalaster Geology Building parking lot. For more information, call Marlys Lowe (451-6853).

"I thought continental drift was much slower."

* * * * *

LOTS OF FOLKS INTERESTED IN EARTH SCIENCES!

Greeting fair-goers at our booth were some new, some old members. They told those who stopped about the Society, gave out our programs, and invited all to come and see for themselves. As always, there were questions about oil and gold in Minnesota. This year we were able to refer them to two recent Geological Survey publications. Helping at the booth were 35 members, some for more than one four-hour period: Virginia Baker, Grace Benz (2), Walt Blowers, Irene Carlson, Martha Collier, Les Collins, Francine Corcoran (3), Henry and Marjorie Gangl (2), Bob Gunville, Bob Handschin (3), Dale and Wilma Johnson, George and Goldie Johnson, Mary Kimball (2), Frank Larimore, Paul Lemke, Alex and Marlys Lowe (2), Warren and Jan Mitchell, Conrad Nelson, Jack Nesheim(2), Mary Galen O'Connor, Clarence and Liz Ooten, Jerry Roth and son, Allan Siekmeier, Mike Solveson, Karen Sorensen, Beatrice Tangen, and Don and Betty Wheeler.

Meeting Fair-goers is always good fun, which some of you may want to try next year!



1986 FAIR BOOTH BEST EVER!!

This year's exhibit was the largest and most attractive in our 26 years at the Fair. It drew nearly 1600 persons to get our 1986-87 programs, of whom 700 signed up for a free copy of our newsletter. The Fair has long been an important source of newcomers for the Society.

For those who didn't see it, half was titled "Continents on the Move...Join Us This Fall and Winter as We Discover Plate Tectonics!". Drawings of the continents adrift were by Dick Selander. The other half was inviting: "Summer Travels...Join Us on Geological Adventures". It had a dozen beautiful enlargements of field-trip snapshots featuring the recent trip to Glacier National Park as well as to various places in Minnesota. Jeff Garry made the enlargements from his own and others' pictures.

Layout and signs were made by President Warren Mitchell. Helping him put up and take down the exhibit were Alex Lowe, Mary Kimball, Dwight Robinson, Clarence & Liz Ooten & Bob Handschin. Our Exhibits Committee, Eva Selander, Chair, planned the display, and Dwight Robinson prepared the winter programs.



TIME TO RENEW YOUR MEMBERSHIP - - -

Our membership year begins October 1, and we need to receive dues early in the program year to meet expenses for our lecturers, program printing, rosters, newsletters and other activities. Our dues are a BIG BARGAIN considering the dozen lectures, lab sessions, workshops, and field trips (which are for members only).

An opportunity will be given for you to renew your membership at the annual meeting September 22. Others will want to become members early in the fall so we will avoid spending time and money or requests later.

As we head into our 49th session, remember its your membership support that keeps the Society going!! Thanks for early action.

Bob Handschin, Membership Chairman

(Regular dues are \$10 - single; \$15 - couples; \$3 - student/ full time; Associate dues - \$7 and \$10 for those unable to attend lecturers. See also backside of printed program.)

* * * * *

ANNUAL MEETING TO BE AT VIKING VILLAGE



This year's Annual Meeting of the Geological Society of Minnesota will be held at the

Viking Village Smorgasbord
510 Snelling Avenue North (Snelling and University)
St. Paul

on Monday evening, September 22 at 7:30 pm

Members and guests who wish to attend dinner should plan to come around 6:00 pm so that we may proceed promptly with the business and program at 7:30 pm.

** **

The meeting will include the election of board members. The following have been nominated:



For a first term: Ed Huppler, Martha Collier, and
Francine Corcoran

For a second term: Bob Gunville

Additional nominations may be made from the floor.

The program will include a review of the year's activities, treasurer's report and announcement of the lecture program for the coming year. From a sampling of the excellent photos at the State Fair exhibit, a slide review of past summer's field trips will provide an educational and entertaining evening as well. For those of us who missed some or all of the trips, we are looking forward to this ever popular event in the activity of the Geological Society of Minnesota.

SLIDE
PROGRAM



For those of you who will be coming to the GSH meetings for the first time to take part in what will be a very exciting series on

"PLATE TECTONICS: EARTH'S BIGGEST CONSTRUCTION PROJECT"

should allow some extra time to park and walk from a parking area if you are driving. The University parking is best and cheapest in the north lots on 4th Street S. E., north of University Avenue. Other parking is available under Northrup Auditorium, Coffman Union, and Mayo Auditorium, and on River Road East. Parking next to the new University Radisson Hotel on Washington Avenue is expensive. Bus service is available on Washington Avenue.

The Physics Building faces on the Mall in front of Northrup Auditorium, and is on Church Street (the same as 17th Avenue S. E.)

* * * * *

The Public Service Committee, with Marion Marien as the Chairperson, has been meeting with representatives of the Department of Transportation (MN) and the Minnesota Geological Survey to plan a display at the I-94 Visitor Center at the state border near Hudson, Wisconsin.

Several themes have been explored. They have now narrowed it down to just a few. We are excited about this development. We will be reporting on this in more detail in a future newsletter.

Great work Public Service Committee!!



Peanuts by Charles Schulz

I'VE BECOME INTERESTED
IN LEARNING ABOUT
THE EARTH'S SURFACE



FOR INSTANCE, HAVE
YOU EVER NOTICED THIS
LAVA FORMATION?



ANCIENT LAVA FLOWS
SUCH AS THIS ONE
HERE ARE REALLY
QUITE FASCINATING



I ALWAYS THOUGHT
THIS WAS OUR
DRIVEWAY!





friends

OF THE MPLS.
PUBLIC LIBRARY



THE PLANETARIUM

300 Nicollet Mall Minneapolis, MN 55401 612/372-6644

NEWS RELEASE

FOR RELEASE: September 6 through November 23, 1986
CONTACT: Rodney M. Nerdahl (612)372-6644

The Minneapolis Planetarium Launches Outer Planets Program

THE VOYAGER ODYSSEY

We live in the greatest age of exploration the world has ever known. This is the time when humans have begun to sail the sea of space. We are earth-bound no longer. Within a single generation, we have set foot upon a nearby island in space and sent scouts to still more distant shores. In this age of exploration, we no longer wait for new Magellans to return with their travelers tales. Where they go - we go. What they see - we see. In this age, we are all voyagers...

This is the story of an epic journey - a saga whose heroes have blazed a trail of discovery and exploration unmatched in history. Using spectacular spacecraft images, realistic simulations of planetescapes observed by the Voyagers, and computer generated film sequences showing the spacecraft's itinerary during major mission events, the program follows the flights of both spacecraft, revealing their discoveries during each planetary encounter. Among the program highlights will be a film excerpt of Jupiter's rotation compiled from nearly 3,500 individual Voyager images and footage prepared from the recent Uranus flyby.

THE VOYAGER ODYSSEY is a production of the staff of The Minneapolis Planetarium.

Admission: Adults \$2.50 - Children 2 to 12 years \$1.25 - Children under 2 free
Showtimes: Saturdays 11am, 2pm, 3pm; Sundays 2pm, 3pm; Thursday evening 7:30pm
Special showings during State Teachers Convention October 16 and 17, 11am, 2pm

GEOLOGICAL SOCIETY of MINNESOTA

Program 86/87

AT >UNIVERSITY OF MINNESOTA, MPLS CAMPUS \$FREE\$

IN >PHYSICS BUILDING, ROOM 131/TBA* PUBLIC

ON >MONDAY EVENINGS: 7:30 P.M. WELCOME!

22 Sep 86

ANNUAL MEETING: Viking Village, Snelling Avenue, St. Paul.

Dinner: 6:00 p.m.; Meeting: 7:30 p.m.

PLATE TECTONICS: EARTH'S BIGGEST CONSTRUCTION PROJECT

- 6 Oct 86 DOWN TO EARTH FOUNDATIONS OF PLATE TECTONICS (P.T.)
2 lectures by Henry Lepp, Macalester College ROOM 131
- 20 Oct 86

ABC'S OF PLATE TECTONICS

By faculty from the University of Minnesota

- 3 Nov 86 HISTORY/EVIDENCE - THE P.T. IDEA, Peter Hudleston 131
- 17 Nov 86 PROCESSES OF P.T., George Shaw 131
- 1 Dec 86 STRUCTURAL EXPRESSIONS OF P.T., Peter Hudleston 131
- 12 Jan 87 EXOTIC TERRAINS OF NORTH AMERICA: EAST & WEST TBA*
- 2 lectures by Karen Kleinspehn
- 26 Jan 87 TBA*

LIFE AND PLATE TECTONICS

- 9 Feb 87 P.T. & EVOLUTION: BASIC RELATIONSHIPS TBA*
- 23 Feb 87 EVOLUTIONARY TRENDS: PRECAMBRIAN & PALEOZOIC TBA*
Nancy Pickett, U of Wisconsin-Eau Claire
- 9 Mar 87 EVOLUTIONARY TRENDS: MESOZOIC & CENOZOIC TBA*
Nancy Pickett

ORE DEPOSITS AND PLATE TECTONICS

- 23 Mar 87 WATER & HEAT AT MID-OCEAN RIDGES TBA*
William Seyfried, University of Minnesota
- 6 Apr 87 ORE DEPOSITS & CONVERGENT MARGINS TBA*
Sam Sawkins, University of Minnesota

- 27 Apr 87 SPRING BANQUET
Topic/Time/Place: To Be Announced (TBA)*

MEMBERSHIP
APPLICATION

WELCOME to the Geological Society of Minnesota [GSM]#1
To become a member, please complete this application and
send it to the Membership Chairperson (see reverse) or
better yet bring it with you when you attend the meetings
listed above.

NAME(S): _____

ADDRESS: _____

(Street)

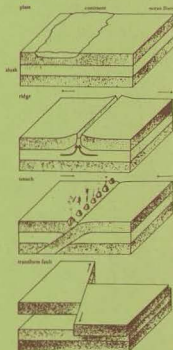
(City)

(Zip)

Type of Membership: _____

(See reverse for categories)

#GSM is a non-profit organization existing only through its members.



Tectonics is a match!

Tectonics means construction - it comes from the same root as architect. Plate tectonics therefore means the construction of the Earth's geological features by the action of plates.





GEOLOGICAL SOCIETY OF MINNESOTA



BEDROCK INFORMATION

Rock Units	Lithology
Formation	
CEDAR VALLEY	
MAGUOKETA	
DURBORG	
GALENA	
DECONI SHALE	
PLATTEVILLE	
GLENWOOD	
ST PETER SANDSTONE	
SHARPOPE	
OWATON DOLomite	
JORDAN SANDSTONE	
ST. LAWRENCE	
FRANCONIA	
BRONTON SS	
CALESVILLE SANDSTONE	
EAU CLAIRE	
MT SIMON SANDSTONE	
HINCKLEY	
FOUR DE LAC	
IGNEOUS and META-MORPHIC Basement Rocks	

THE GEOLOGICAL SOCIETY OF MINNESOTA is an organization interested in the story of the earth, what it is made of and how it is put together. Geology, the study of the earth over billions of years of constant change is fascinating to many people. Members of the Geological Society are such people.

LECTURES are scheduled on alternate Mondays, October - April at 7:30 p.m. in a lecture hall on the University of Minnesota Campus. Generally, one area of study is pursued in depth over several meetings by one or more professional, local geologists who provide stimulating presentations geared to interested, non-professionals. A discussion session with refreshment is held during each presentation. Also, specimens may be brought in for identification and discussion.

LABORATORY SESSIONS are held whenever possible on alternate Mondays throughout the lecture series. These are informal, hands-on learning experiences also structured for the non-professional level of understanding and interest.

FIELD TRIPS during the summer fill out the schedule. They are led by geology professors or field geologists who lead trips to their special areas of interest. These trips provide first-hand encounters with earth processes forming the landscape. Members learn to observe and evaluate these processes.

THE SOCIETY aims to further understanding of geology by the public especially the geology of Minnesota. To this end, 33 roadside plaques have been written and installed under the sponsorship of the society and each year exhibits on the State's geology are presented at the Minnesota State Fair. Club members also serve as speakers at schools and meetings of other local organizations. Educational efforts are ongoing.

MEMBERS OF THE SOCIETY come from all walks of life and age groups. No particular scientific training or background is necessary. Members are united by their enthusiasm for geology as an absorbing intellectual activity and stimulating hobby.

THE GEOLOGICAL SOCIETY OF MINNESOTA MEMBERSHIP YEAR begins October 1, with yearly dues payable any time beginning with the fall Annual Meeting. Membership includes subscription to the newsletter covering the society's various activities. We invite you to participate!

☐ **Membership**

☐ **Membership Chairperson**

Robert Handshin (612) 774-1431
2029 Edgerton Road
St. Paul, MN 55117

☐ **Official Address**

Mary Kimball (612) 644-6429
1711 Marshall Avenue
St. Paul, MN 55104

☐ **REGULAR**

Couples \$ 15.00
Single \$ 10.00
Student/Full Time \$ 3.00

☐ **OTHER**

Sustaining \$ 25.00
Supporting \$ 50.00
Guarantor \$ 100.00

☐ **ASSOCIATE***

Couples \$ 10.00
Single \$ 7.00

*Associate membership is made available to those who due to health, location or financial status are unable to participate fully or sustain a regular membership

Approx. Max.
Thickness in
Feet, Meters

305/93

70/21

35/11

230/70

95/28

35/11

18/5

155/47

240/73

170/52

115/35

6/2

190/56

45/18

95/28

165/50

215/66